FIELD GUIDE FOR THE CATCH-UP OF CHILD HEALTH INTERVENTIONS IN SOUTH AFRICA

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1 ACRONYMS

AEFI	Adverse Event Following Immunisation
ARV	Anti-retro viral
BANC	Basic ante-natal care
BCG	Bacille Calmette Guerin
CHAI	Clinton Health Access Initiative
DOH	Department of Health
ECD	Early Childhood Development
EPI	Expanded Program on Immunisation
EPI-SA	The Expanded Programme on immunisation in South Africa
HepB	Hepatitis B
Hib	Hemophilus influenza type b
HIV	Human immunodeficiency virus
IMCI	Integrated Management of Childhood Illnesses (IMCI)
MAM	Moderate acute malnutrition
MCV1	Measles Containing Vaccine 1
MCV2	Measles Containing Vaccine 2
OPV	Oral Polio Vaccine
PMTCT	Prevention of Mother to Child transmission of HIV
REC	Reaching Every Child
RI	Routine Immunisation
RtHB	Road to Health booklet
RV	Rotavirus Vaccine
SAM	Severe acute malnutrition
Td	Tetanus and reduced strength diphtheria
UNICEF	United Nations Children's Emergency Fund
VAS	Vitamin A supplementation
WHO	World Health Organization

1. BACKGROUND

Targeted child health interventions may be missed due to a number of reasons. It is the responsibility of all health care providers who encounter children who have missed essential child health interventions such as immunisation, growth monitoring, vitamin A supplementation, deworming among other preventive interventions to ensure that these children receive eligible interventions in an age-appropriate, safe manner. This applies to both the public sector as well as the private sector health providers.

The impact of missed interventions is adverse. For example, missed vaccine doses during routine immunisation result in immunity gaps that makes the population susceptible to vaccine preventable disease outbreaks with the resultant morbidity and mortality.

When a child misses routine growth monitoring interventions such as weight, height and mid-upper arm circumference measurements as well assessments for bilateral pedal oedema, there is the missed opportunity for early detection and intervention in children with moderate acute and severe acute malnutrition (MAM/SAM) that increases their risk of vulnerability to diseases including VPDs.

Care-givers are advised to integrate growth and development monitoring, counselling and support for nutrition (including special attention to support for breastfeeding and complementary feeding), at every contact with health services, including during immunisation visits.

Missed doses of Vitamin A may result in Vitamin A deficiency. Vitamin A deficiency causes visual impairment (night blindness), increases the risk of illness and mortality from childhood infections such as measles and diarrhoea. Improving the vitamin A status of deficient children through supplementation enhances their resistance to disease and can reduce mortality from all causes by approximately 23%.

Missed doses of deworming tablets may result in intestinal worm infestation, which can deplete a child's nutritional resources resulting in retardation of growth and anaemia. South Africa like other parts of the world has a high prevalence of Soil Transmitted Helminthes, particularly amongst disadvantaged children who live in densely populated rural and under serviced areas such as informal settlements. Worm infestation, if left untreated, can impact negatively on all aspect of a child's development. This includes, health, nutrition, cognitive development, learning and educational access and achievement. Deworming therefore represents a cost-effective intervention.

Because of the high risk of death before the age of 2 years among HIV-infected infants and given the increasing availability of paediatric antiretroviral treatment in the country, early virological diagnosis of HIV infection in infants is important as it enables early identification of children who have HIV-infection, as a first step in securing their treatment and care and enables the identification of those who are HIV-exposed but uninfected, facilitating follow-up care and prevention measures that will help to ensure that they remain uninfected. The South African PMTCT guidelines recommends that an HIV PCR

test be conducted at birth, at 10 weeks and 6 months for HIV exposed infants, as well as ARV prophylaxis from birth until the end of breastfeeding period to further prevent mother to child transmission of HIV during the post-natal period. The guidelines also promote integrated management of the mother-baby pair by aligning PMTCT interventions with BANC visits during antenatal period and EPI visits during postnatal period.

As described above, given the adverse implications of missed interventions; it is of utmost importance that all health care workers who encounter children under 5; assess the status of missed interventions and provide them appropriately.

1.1 PURPOSE

The purpose of this field guide is to outline the process of catch-up of missed vaccination doses and other key child health interventions. Catch-up refers to the process of providing doses of various interventions and required assessments that would have been missed for any reasons (such as stock outs, service interruptions or reduced demand etc.)

1.2 SPECIFIC OBJECTIVE

To describe the principles of catch-up including eligibility assessments, recording, re-scheduling, co-administration and follow-up process of the following interventions:

- Routine immunisation
- Nutritional assessments
- Deworming
- Prevention of Mother-to Child Transmission of HIV (PMTCT)

1.3 SCOPE

This filed guide is targeted towards front line health care workers and senior managers who administer and manage child health programs respectively.

This field guide should be adhered to at all health care facilities.

This field guide does not replace the currently existing national technical guidance documents; but aims to summarise the key-catch up procedures in a succinct manner.

In addition to this filed guide; staff must adhere to all the following relevant national guideline documents:

1. Vaccinator's Manual (4th Edition, January 2015)
2. National EPI schedule
3. Integrated Management of Childhood Illnesses (IMCI) Chart booklet
4. Road to Health Book
5. Infant and Young Child Feeding
6. PMTCT guidelines

2 IMMUNISATION CATCH-UP

2.1 BACKGROUND

EPI-SA was launched in 1994. There are currently eleven antigens in the vaccination schedule. Immunisation is offered free of charge at all government health care facilities. The government of SA provides 100% of routine vaccine expenditure. There are over 3000 government facilities offering immunisation in SA. There are also a number of private providers of immunisation (hospital groups, private pharmacies as well as individual private nurse and doctors).

The public sector routine immunisation schedule is shown below:

TABLE 1: SA IMMUNISATION SCHEDULE

Age	Antigens
Birth	OPV 0, BCG
6 weeks	OPV 1, DTaP-IPV-Hib-HBV 1, , RV 1, PCV 1
10 weeks	DTaP-IPV-Hib-HBV 2,
14 weeks	DTaP-IPV-Hib-HBV 3, , RV 2, PCV 2
6 months	Measles 1
9 months	PCV3
12 months	Measles 2
18 months	DTaP-IPV-Hib-HBV 3, PCV3
6 years	Td
12 years	Td
Grade 4 girls, aged 9 years and older	HPV

2.2 IMMUNISATION CATCH-UP

2.2.1 CHECK FOR MISSED DOSES

- Missed vaccination doses should be checked upon encounter with any child up to 5 years of age:
  - All children who present to all health facilities for any curative services including hospitalized children or children presenting for elective procedures
  - All children attending Early Childhood Development (ECD) centres
  - All children of school-going age at schools
  - All children seeking care in the private sector health facilities
  - All children residing in long term care facilities
  - Street children and other vulnerable children (in informal settlements, children of immigrants, in prisons etc)

- Within the community by ward-based outreach teams pro-actively requesting to review the RtHB of all children in visited households

- The most objective method to verify missed doses is by checking the RtHB.
  - In the absence of the RtHB history of vaccination from the care-giver is essential.
  - Where the caregiver account is contrary to what is recorded in the RtHB; the record in the RTHB takes precedence i.e. if it is not written in the RtHB; it means that it was not administered.
  - If the caregiver cannot recall; and there is no RtHB then judge the doses as missed and assess eligibility for catch-up.
  - *NB: In the absence of the RTHB, the caregiver may not recall the exact names of vaccines; but may remember the diseases the vaccines prevent, the age at which the vaccines were administered and the route of administration. This therefore; requires skillful interviewing.*
  - If the RTHB is missing; ascertain the reason why and if it cannot be located for various reasons (e.g. lost; burnt etc.) a new RtHB should be issued to all children under 5.

- Upon checking the RTHB; note the vaccines that were not recorded i.e. the missed doses for age.
  - Noting the missed doses requires systematically reviewing all the vaccines age by age and dose by dose; chronologically from birth doses to the current age appropriate dose.
  - After the missed doses are noted proceed to determine eligibility for catch up
  - *NB: Some children may present with RtHBs or vaccination cards from the private sector or from other countries. Despite this, the process of systematically checking for missed doses should be followed for every child. If there are challenges in the translation of the vaccination cards, the vaccinators should inform the district/province who will get assistance from the NDOH via various means e.g. WHO.*

2.2.2 ASSESSING FOR ELIGIBILITY OF CATCH-UP DOSES

- Once missed doses are identified per 2.2.1 above; the next step is to assess which vaccines the child is eligible for catch-up.
  - Eligibility is determined by the upper age limit of the vaccine as well as the direction from the national immunisation schedule.
  - It is important to note that if a child missed a dose they are eligible to receive that dose if the child's age is below the upper age limit for that vaccine based on the manufacturer recommendations as well as the national catch-up schedule (Annexure 1)

- Below is the upper age limit of the vaccines in the public sector EPI schedule per the manufacturer recommendations.

TABLE 2: VACCINE UPPER AGE LIMITS

Vaccine	Upper age limit (per manufacturer)	Upper limit per national schedule guideline
BCG	12 months	12 months
OPV birth dose	No upper age limit	6 months
DTaP-IPV-Hib-HBV	59 months	59 months
RV		24 weeks
Measles	No upper age limit	No upper age limit
PCV	72 months	72 months
Td	No upper age limit	15 years
HPV		

- In many cases the child may have missed multiple antigens and therefore may need multiple vaccines to be administered on the same first catch up visit.
  - Vaccines can be safely administered at the same time (always different sites and different syringes and needles for the injectable vaccines)
  - NB. The measles vaccine that is currently being used in SA should not be co-administered with other vaccines per the advice from the regulatory authorities. Therefore, when a child who has missed measles vaccine among other vaccines presents to a health facility; the catch-up process should ensure that whenever the measles vaccine is administered; no other vaccines are administered on the same visit and in the preceding or next 4-week interval.
  - **NB: For a child who has missed measles among other antigens; always administer measles vaccine first then the other vaccines after the 4-week interval.**

- Annexure 1 indicates the SA immunisation catch-up schedule

- Some key principles to note are the following:
  - The minimum interval between doses for vaccines that require multiple doses is 4 weeks. This interval should not be less than 4 weeks but can be more than 4 weeks
  - Even if a long time has passed between doses of the same vaccine; it is not necessary to restart the series from the beginning (if a child gets the Hexaxim © 1 at the correct age at 6 weeks and misses all other Hexaxim© doses at 10 and 14 weeks and returns to the facility at the age of 5 months; the vaccinator should continue to administer Hexaxim © and record it as a second dose of the series even though the interval between the two doses is longer than 4 weeks

- Multiple vaccines may be given at the same time (exception: measles). In all situations the site of administration should be according to the national schedule (right/left)

2.2.3 RECORDING OF THE CATCH-UP DOSES

- All vaccine doses administered should be recorded appropriately. Recording should be done post administration.

- All vaccine catch-up doses should be recorded in the RtHB/ vaccination card.
  - Within the RtHB/vaccination card, the administered doses should be recorded based on the dose number (the first eligible dose is dose 1) regardless of age of the child. For example if a child missed all the Hexaxim © doses and attends the health facility for catch-up vaccination at 14 weeks; at that age the child receives the first Hexaxim © dose and it should be recorded as Hexaxim © 1; even though the child is 14 weeks old. Subsequent doses of the same antigen are then recorded chronologically based on dose number
  - If a child missed some doses and is no longer eligible based on a number of factors e.g. age; the space of that vaccine should not be left blank in the RtHB but should be noted as (ineligible due to age)

- In addition to recording the catch-up doses in the RtHB; these doses should be recorded in the facility PHC register
  - All catch-up doses of children below the age of one year should be recorded by dose (as explained above) in the facility PHC register
  - All first-year doses administered to children over 12 months of age should not be recorded in the facility PHC register but should be recorded in the appropriate **tools/ tally sheets** as directed by the NDOH.

2.2.4 FOLLOW-UP APPOINTMENTS

- Post the first catch up visit there may be need for additional visits for additional doses of the series or for booster doses
  - Communicate with the caregiver the catch-up schedule so that they understand why and when they need to return
  - Write the return date clearly in the RTHB and make sure the care giver understands and has noted this date
  - Ensure the date is also recorded using the Ideal Clinic appointment system

3 NUTRITIONAL ASSESSMENTS CATCH-UP

3.1 BACKGROUND

When a child misses routine growth monitoring and promotion interventions such as weight, height and mid-upper arm circumference measurements as well assessments for bilateral pedal oedema, there is the missed opportunity for early detection of acute malnutrition and intervention in children. Children who suffer from acute malnutrition and/or bilateral pitting oedema are up to 12 times more likely to die from common illnesses than children who are not wasted. Therefore, preventing the disruption of essential nutrition services such as routine growth monitoring and promotion remains key to limiting the burden of morbidity and mortality from this preventable and treatable condition1

Episodes of acute malnutrition increase the risk of stunted growth and development. It further contributes to impaired intellectual development, suboptimal adult work capacity and increased risk of diseases in adulthood. The 2016 South African Demographic Health Survey showed that 1 in 4 children under-5 (27.4%) are stunted (low height for age), 3% are wasted, and 6% are underweight.

Failing to address malnutrition will continue to negatively impact child health, education and subsequent socioeconomic status. Identifying and managing cases of moderate and severe acute malnutrition are key to a child's chances of recovery.

The RtHB is an important tool for growth monitoring and promotion which is done by assessing the child's measurements (weight, height) and plotting of the weight, height and age of child using the growth charts.

[1] *Prevention, Early Detection and Treatment of Wasting in Children 0-59 Months through National Health Systems in the Context of COVID-19,* United Nations Children's Fund and World Health Organization, New York, 2020.

TABLE 3: ROUTINE GROWTH MONITORING AND PROMOTION SCHEDULE

	All infants and children >6 month to 60 months	All infants birth to <12 months	All children >12 to 24months	All children 24months to 60 months
MUAC	Home visits and every clinic visits	Home visits and every clinic visits (from 6 -12 months)	Home visits and every clinic visits	Home visits and every clinic visits
Weight for age		Per schedule in RtHB (page 2) and Every month from m to 12m	Every two months	Every 6 months if child is growing well – if not follow IMCI
Length/Height for Age chart		Length/height-for-age must be done monthly if the child's weight-for-age line is below -2/-3 line or above +2/+3 line (not growing well). Or Every 6 months if child is Growing well	Length/height-for-age must be done bi-monthly if the child's weight-for-age line is below -2/-3 line or above +2/+3 line. OR Every 6 months if child is growing well	Every 6 months
Weight for Length/Height chart		Weight-for-length must be done monthly if the child's weight for age is < -2/-3 line or > +2/+3 line Or Every 6 months if child is growing well	Weight-for-length must be done bi-monthly if the child's weight for age is < -2/-3 line or > +2/+3 line Or Every 6 months if child is growing well	Every 6 months

NOTE: Consider all of a child growth charts together, particular if only one of the chart shows a problem.

3.2 NUTRITIONAL ASSESSMENTS CATCH UP

3.2.1 CHECK FOR MISSED ASSESSMENTS

The most objective method to verify growth monitoring assessments is by checking the RtHB when the last the child was weighed, height taken, and plotted of the weight and height and the interpretation of the growth curve and the MUAC taken.

3.2.2 MISSED NUTRITIONAL ASSESSMENTS

- Assess and classify all under-5 children for acute malnutrition.
- Look for signs of acute malnutrition
- Assess all the children below 5 years of age for oedema of both feet (bilateral pedal pitting oedema)

- Assess all the children for OEDEMA of both feet (bilateral pedal pitting oedema).
- Bilateral pedal pitting oedema is the retention of water in the tissues of the body.
- Children presenting with bilateral pedal pitting oedema must be referred to the local health clinic for further assessment and management.

Measure the mid-upper arm circumference (MUAC)

- MUAC is used for children 6 to 59 months.
- If the birth date is unconfirmed, use the recall of the mother/caregiver to estimate the infant's age.
- MUAC is the circumference of the mid-upper arm. This measurement is a quick and simple way to determine whether or not a child over the age of 6 months is malnourished. MUAC is always taken on the left arm

3.2.3 RECORDING OF THE MISSED NUTRITIONAL ASSESSMENT

The MUAC measurement should be recorded in the RtHB/ clinic card.

TABLE 4: MUAC MEASUREMENT INTERPRETATIONS AND ACTIONS

Classification	Oedema	MUAC	Actions
SAM with Oedema	Yes	Not useful for classification	Refer to PHC facility to be assessed and refer for admission
SAM on MUAC	No	< 11.5 cm	Refer to PHC facility, for further assessment (weight, height/length), plotting on the RtHB and refer if SAM is confirmed
MAM on MUAC	No	Between 11.5 and 12.5 cm	Refer to PHC facility; (weight, height/length), plotting on the RtHB and treat according to IMCI guidelines
Not Acutely Malnourished (NAM) on MUAC	No	> 12.5 cm	Encouragement Key nutrition messages

3.2.4 FOLLOW-UP APPOINTMENTS

Communicate with the caregiver the routine schedule for growth monitoring so that they understand why and when they need to return and write the return date clearly in the RtHB.

4 VITAMIN A SUPPLEMENTATION CATCH-UP

4.1 BACKGROUND

The National Food Consumption Survey, which was conducted in 1999 among children aged 1-9 years, found that one out of two children had a vitamin A intake of less than half the recommended level.

Children who are vitamin A deficient suffer an increased risk of death and illness, particularly measles and diarrhea.

Providing Vitamin A supplements to children who need them improves their vitamin A status, increases their resistance to disease, reduces the severity of illnesses and the length of hospital stays, and improves their chances for survival, growth and development.

Because Vitamin A can be stored in the liver, it is sufficient to give high doses once every 6 months through oral supplements for prevention.

The public sector routine vitamin A supplementation schedule is shown below:

TABLE 5: SA VITAMIN A SUPPLEMENTATION PREVENTATIVE SCHEDULE

Target group	Dosage	Schedule
All infants 6 to 11 months	100 000 IU (1 blue capsule)	A single dose at the age of 6 months (or up to 11 months)
All children 12 to 60 months	200 000IU (1 red or yellow capsule)	A single dose at 12 month and then every 6 months until 60 months

4.2 VITAMIN A CATCH UP

4.2.1 CHECK FOR MISSED VITAMIN A DOSES

Missed Vitamin A supplementation doses should be checked upon encounter **with any child 6 months until 59 months of age:**

- at every immunisation contact
- who present to all health facilities for any curative services including hospitalized children or children presenting for elective procedures
- attending Early Childhood Development (ECD) centres
- seeking care in the private sector health facilities
- residing in long term care facilities

- Street children and other vulnerable children (in informal settlements, children of immigrants, in prisons etc)
- Within the community by ward-based outreach teams pro-actively requesting to review the RTHB of all under-5 children in visited households

4.2.2 ASSESSING FOR ELIGIBILITY

If the child is between 6 months and 60 months old, check the Road to Health Booklet or Chart to see when the last vitamin A supplementation dose was recorded and the child's age.

- Give a single dose if the child:
  - 100 000 IU if the child is between 6 and 11 months of age and has missed the routine dose
  - 200 000 IU if the child is between 12 months and 60 months of age and has not had a dose in the previous 6 months and
  - Has missed the routine dose.
  - Is due for a routine dose.

NOTE: According to WHO, the minimum interval between doses of vitamin A is one month and the maximum interval between doses is 6 months.

- Annexure 2 indicates the SA Vitamin A supplementation catch-up schedule.

- Some key principles to note are the following;
  - If the child has missed more than one (1) dose only give one (1) dose and follow the routine dose intervals. For example, if a child received the vitamin A supplementation dose at 18 months and missed all other vitamin A doses at 24, 30 and 36 months. If the child is presented at 42 months, the health workers should administer a single dose 200 000IU vitamin A and record it, and tell the caregiver to return after 6 months for the next routine dose.

4.2.3 RECORDING OF THE CATCH-UP

- Vitamin A supplementation doses administered should be recorded in the RtHB/ clinic card post administration, based on the dose and eligible age of the child. In addition to recording the catch-up doses in the RtHB; these doses should be recorded in the facility PHC register.
- For example, if a child missed all vitamin A doses and attends the health facility for catch-up vitamin A at 36 months; at that age the child receives a single dose of vitamin A and it should be recorded; even though the child is 36 months old, and the next routine dose will be given six months later.

- If a 12 months and older child has missed a dose, always ensure that there is at least a 4 weeks' interval before the next date of routine dose

4.2.4 FOLLOW-UP APPOINTMENTS

Post the first catch up visit there may be need for additional visits for additional routine doses. Communicate with the caregiver the routine schedule so that they understand why and when they need to return and write the return date clearly in the RtHB.

5 DEWORMING CATCH-UP

5.1 BACKGROUND

Many children are infested with worms, which, may interfere with their health and nutrition, so deworming treatment should be given routinely. Preventive chemotherapy (deworming) - a single-dose treatments are safe, convenient and effective, and should be given to all children between one and five years of age every six months. Deworming is offered free of charge at all government health care facilities.

The public sector routine deworming schedule is shown below:

TABLE 6: SA DEWORMING SCHEDULE

Age	**Mebendazole**		
	Suspension (100 mg per 5 ml)	**100 mg tablet**	**500 mg tablet**
12 months	5 ml twice a day for 3 days	One tablet twice a day for 3 days	
18 months	5 ml twice a day for 3 days	One tablet twice a day for 3 days	
24 to 59 months	25 ml stat	*5 tablets stat	One tablet stat
Age	**OR Albendazole**		
	Suspension (20 mg per ml)	**200 mg tablet**	**400 mg tablet**
12 months	10 ml stat	**One tablet**	Half a tablet stat
18 months	10 ml stat	One tablet stat	Half a tablet stat
24 to 59 months	20 ml stat	Two tablets stat	One tablet stat

5.2 DEWORMING CATCH-UP

5.2.1 CHECK FOR MISSED DEWORMING DOSES

The most objective method to verify missed deworming doses is by checking the RtHB.

5.2.2 ASSESSING FOR ELIGIBILITY

If the child is between 12 and 59 months old, check the child's RtHB or booklet to see when the child last received deworming medication.

- Give a single dose if the child:
- is between one and five years of age and
- has not had a dose in the previous 6 months and

- has missed their routine dose
- is due for a routine dose

- Give either Mebendazole or Albendazole (depending on what is avaialable in your area).
- Mebendazole is available in 100mg and 500mg tablets, as well as a suspension (liquid)
- Albendazole comes in 200mg and 400mg tablets, and in a suspension. The Albendazole 400mg tablets are scored (marked with a line in the middle) and can be broken in half along the line. Some tablets are chewable and some must be swallowed (with water).

- Make sure that you are familiar with the type of medication that is used in your area. Always make sure that the medicine has not expired.

- The correct dose depends on the age of the child and is shown in the table below. Measure 5 ml using a measuring spoon or syringe.

TABLE 7: DEWORMING MEDICATION UPPER AGE LIMIT.

Medication	**Upper limit per national schedule guideline**
Mebendazole100mg bd x 3days	23 months
Mebendazole 500mg	59 months
Albendazole 200m stat	23 months
Albendazole 400mg	59 months

- Annexure 2 indicates the SA deworming catch-up schedule
- Some key principle to note are the following:
  - Even if a long time has passed between doses of deworming medication, it is not necessary to restart the series from the beginning. For example, if a child gets the deworming medication at the correct age at 18 months and misses all other deworming doses at 24, 30 and 36 months, and returns to the facility at the age of 42 months, the health worker should continue to administer deworming medication and record it, the next routine dose will be after six months.

5.2.3 RECORDING OF THE CATCH-UP DOSES

- Deworming doses administered should be recorded in the RTHB/ clinic card post administration, based on the dose and eligible age of the child. In addition to recording the catch up doses in the RTHB; these doses should be recorded in the facility PHC register.

- For example, if a child missed all deworming doses and attends the health facility for catch-up deworming at 36 weeks; at that age the child receives stat dose of either Albendazole 400mg OR Mebendazole 500mg and it should be recorded; even though the child is 36 weeks old, and the next routine dose will be given six months later.
- If a 12 months and older child has missed a dose, always ensure that there is at least 4 weeks interval before the next date of routine dose.

5.2.4 FOLLOW-UP APPOINTMENTS

Post the first catch up visit there may be need for additional visits for additional routine doses. Communicate with the caregiver the routine schedule so that they understand why and when they need to return and write the return date clearly in the RTHB.

6 PMTCT CATCH UP PROCEDURE

6.1 BACKGROUND

South Africa (SA) is committed to achieving the elimination targets outlined in the Last Mile Plan. Whilst significant progress has been made in preventing HIV infections in children, HIV remains the third leading cause of maternal mortality, and a significant contributor to under-five deaths in SA. Therefore, managing the health of women living with HIV and preventing mother-to-child transmission of HIV remains a critical intervention for ensuring that women and children survive and thrive in South Africa. Antiretroviral prophylaxis and HIV PCR testing have been part of the PMTCT guidelines since the start of the program. The guidelines have evolved over time with more robust regimens being introduced as well as additional monitoring for both mothers and their infants.

TABLE 8: SA HIV TESTING AND EARLY INFANT DIAGNOSIS SCHEDULE

Age	Test / Actions
Birth	**HIV-PCR for all HIV exposed infants**
3-6 days	Follow up results from birth PCR and manage accordingly
6 weeks	Ensure that birth PCR and mother's VL results were checked and acted on
10 weeks	**HIV-PCR for all HIV exposed infants who previously tested HIV-PCR negative**
6 months	**HIV-PCR for all HIV exposed uninfected infants** AND establish the HIV status of all infants with unknown exposure (HIV rapid test for the infant if the mother is absent and HIV test for the mother)
18 months	**Universal HIV testing at 18 months (HIV rapid test for ALL Infants regardless of HIV exposure** except those who are known positive prior to testing) confirmatory PCR tests for infants who will test positive
Other tests	**Do an age appropriate HIV test 6 weeks post cessation of breastfeeding even if breastfeeding extends beyond 18 months.** **Test a symptomatic child according to IMCI guidelines**.

6.2 PMTCT CATCH-UP

6.2.1 CHECK FOR MISSED HIV TESTING AND EARLY INFANT TESTING

- Missed HIV testing and early infant testing should be checked upon encounter with any child up to 2 years of age:
  - All children who present to all health facilities for any preventative and curative services including hospitalized children or children presenting for elective procedures
  - All children attending Early Childhood Development (ECD) centres
  - All children of school-going age at schools
  - All children seeking care in the private sector health facilities
  - All children residing in long term care facilities
  - Street children and other vulnerable children (in informal settlements, children of immigrants, in prisons etc)
  - Within the community by ward-based outreach teams pro-actively requesting to review the RTHB of all children in visited households

- The most objective method to verify missed HIV testing is by checking the RTHB
  - In the absence of the RTHB, the mother's HIV status is important. If the mother has a known HIV positive status or recently (at current visit) tested HIV negative AND is breastfeeding, then infant's exposure can be assessed
  - Where the caregiver account is contrary to what is recorded in the RTHB; the record in the RTHB takes precedence.
  - If the care giver cannot recall; and there is no RTHB then assume the infant is HIV exposed and high risk and proceed accordingly

- Upon checking the RTHB; note the HIV tests and early infant diagnosis opportunities missed.
  - Noting the missed HIV tests requires systematically checking both the HIV exposure, testing and prophylaxis of the infant over 24 months.
  - After the missed testing opportunities are noted proceed to determine eligibility for catch up

6.2.2 ASSESSING FOR ELIGIBILITY

- Once missed HIV testing opportunities are identified; the next step is to assess whether the child is eligible for catch-up.
  - Eligibility is determined by the infant's HIV exposure and/or age

TABLE 9: AGE BRACKETS FOR EARLY INFANT DIAGNOSIS

Age for HIV test (according to the PMTCT testing algorithm)	Age bracket for early infant HIV diagnosis	Recommendation if missed
Birth	Birth – 6 weeks	HIV-PCR for all HIV exposed infants
10 weeks	7 – 16 weeks	HIV-PCR for all HIV exposed infants who previously tested HIV-PCR negative
6 months	17 – 30 weeks	HIV-PCR for all HIV exposed uninfected infants **Suggestion:** 7 – 17 months- PCR test for all exposed uninfected infants
18 months	18 months	Universal HIV testing at 18 months (HIV rapid test for ALL Infants regardless of HIV exposure)
Other tests	Symptomatically or 6 weeks post breastfeeding cessation	Follow the age appropriate algorithm

- In many cases the child may have missed multiple HIV testing opportunities
  - Only one HIV test is required for those infants missing one or more HIV testing opportunities.
  - Infants under 18 months can follow the normal HIV testing algorithm for HIV exposed and unexposed infants
  - Infants who missed the 18 months HIV test should be tested for HIV using a rapid test at any clinical or outreach opportunity (i.e. current visit)
- Some key principles to note are the following:
  - The HIV exposure and risk of the infant should be assessed, ensure high risk infants are on prophylaxis (risk determined by mother's ART and VL, infant feeding and maternal high risk behaviours)
  - The mother should be managed along with the infant to ensure minimal risk and infection to the infant

6.2.3 RECORDING OF THE CATCH-UP TESTING

- All infant and child HIV testing should be recorded appropriately. Recording of HIV testing is according to the NIDs parameters and includes HIV testing for children over 12 months
- Infant HIV testing should be appropriately recorded in the RTHB

- All HIV tests should be recorded in the appropriate registers (HIV testing, well baby register etc.)
- For HIV PCRs all results should be followed up and confirmatory tests done according to the PMTCT guidelines

6.2.4 FOLLOW-UP APPOINTMENTS

- After the appropriate HIV test is conducted (noting that all infants at 18 months require an HIV diagnosis irrespective of exposure and risk)
  - Communicate with the caregiver follow up testing required according to the PMTCT early infant diagnosis and HIV testing algorithm so that they understand when they need to return
  - Write the return date clearly in the RTHB

7 SAFETY & CO-ADMINISTERING CATCH-UP INTERVENTIONS

- <u>Ensuring the safety of children during administration of all interventions is key.</u>

- All health care workers who administer any intervention should be adequately trained

- Some key safety considerations for deworming:
  - Only chewable deworming tablets should be given to children under 5 years of age.
  - For children under 3 years of age, tablets should be broken and crushed between two spoons, then water added to help administer the tablets
  - Do NOT force a child to swallow the mixture
  - Do NOT hold the child's nose to make him/her swallow
  - DO let the child go home untreated if administration is unsuccessful; he/she will be treated during the next round

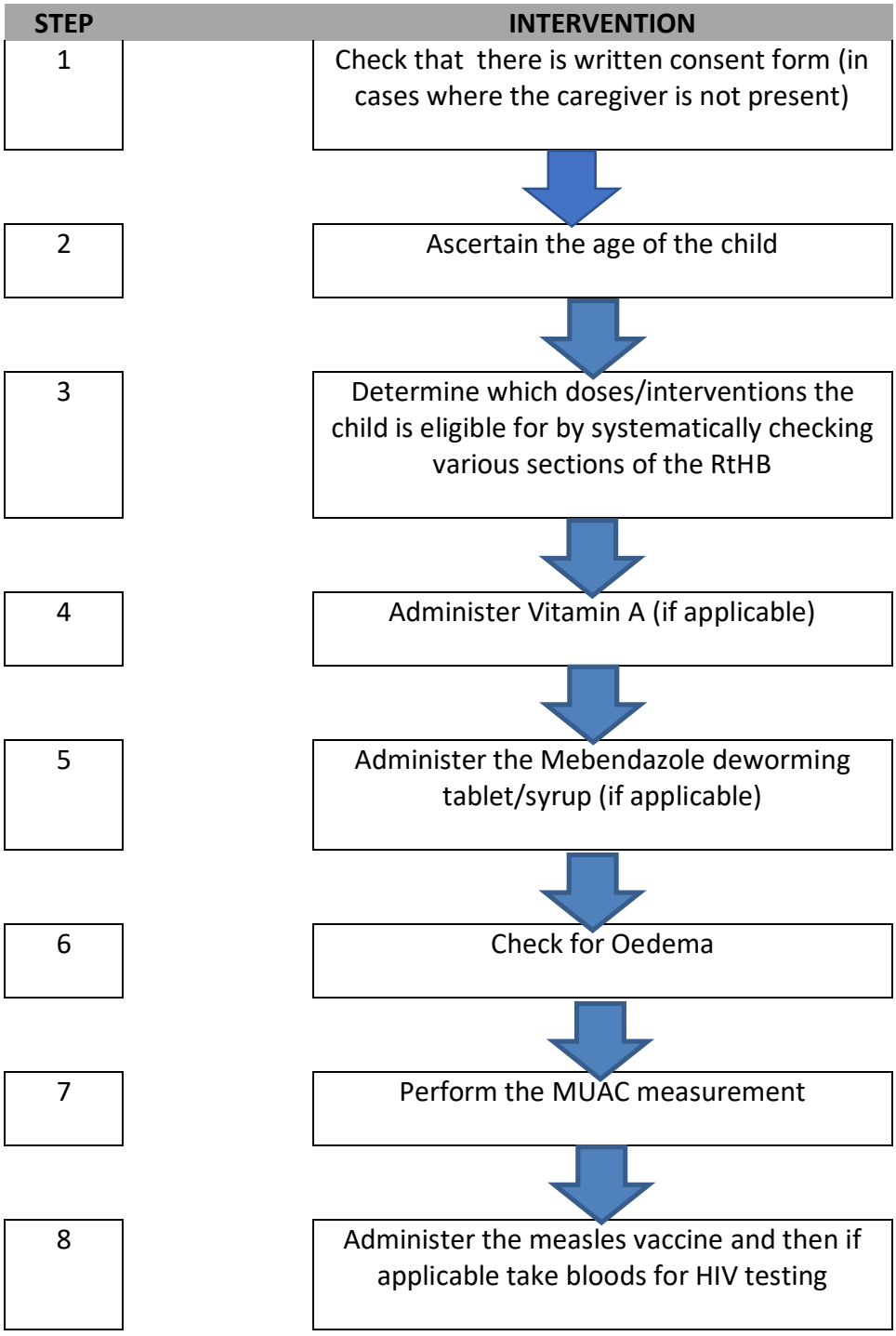
- In instances where a child requires multiple administration of interventions e.g. deworming tablets, injectable vaccine and Vitamin A. As a matter of principle start with the least invasive and least painful. I.e. Always start with the oral doses before injectables.

IN GENERAL THE FOLLOWING PRINCIPLE SHOULD BE FOLLOWED:

- Start by administering the least painful or least invasive intervention first.
- Never give the injectable vaccine before the oral medication because there is increased risk of chocking if a crying child has oral medication administered to them.

7.1 FLOW OF INTERVENTIONS

The schematic below summarizes the proposed intervention flow for catch-up



ANNEXURE 1: IMMUNISATION CATCH UP SCHEDULE

Side-by-Side

Catch up for children who missed scheduled doses

PROTECTION

Vaccine	Minimum age 1st dose	Check the age at presentation, give the first dose and follow dose interval if another dose is indicated	Minimum interval between doses		
			Dose 1 to dose 2	Dose 2 to dose 3	Dose 3 to dose 4
BCG	Birth	<12 months of age			
		Do not give after ≥12 months of age			
OPV	Birth	<6 months	4 weeks after the 1st dose		
		>6 months Do not give OPV0 (birth dose)			
DTaP-IPV-HB- Hib (Hexavalent)	6 weeks	< 24 month of age	4 weeks after the 1st dose	8 weeks after the 2nd dose	12 months after the 3rd dose
		Do not give after ≥59 months of age			
Rotavirus (Rotarix)	6 weeks	<20 weeks	4 weeks after the 1st dose		
		20-24 weeks Give only one dose.	4 weeks after the 1st dose		
		Do not give after 24 weeks of age			
Pneumococcal (PCV)	6 weeks	< 6 months of age	4 weeks after the 1st dose	Give 3rd dose at 9 months of age	
		6-9 months	4 weeks after the 1st dose	8 weeks after the 2nd dose	
		12 - 72 months (1yr to 6 yrs)	Give only one dose at presentation. No further doses required		
Measles	6 months	<11 months of age	Give 2nd dose at 12 months of age		
		>11 months of age	4 weeks after the 1st dose		
Td	6 years	>6 years of age	Give 2nd dose at 12 years of age		
		>12 years to 15 years	Give only one dose at presentation. No further doses required		

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ANNEXURE 2: VITAMIN A SUPPLEMENTATION CATCH-UP SCHEDULE

CATCH-UP FOR CHILDREN WHO MISSED SCHEDULED DOSES FOR VITAMIN A SUPPLEMENTATION			
VITAMIN A	MINIMUM AGE 1ST DOSE	CHECK AGE AT PRESENTATION, GIVE THE MISSED DOSE AND FOLLOW ROUTINE SCHEDULE	MINIMUM INTERVAL BETWEEN DOSES
Vit A 100 000 IU	6 Months	6 to 11 months	1 Dose
Vit A 200 000 IU	12 Months	< 59 Months	4 Weeks
		59 to 60 Months	1 dose
		≥ 60 Months	Do not give

ANNEXURE 3: DEWORMING SCHEDULE

CATCH-UP FOR CHILDREN WHO MISSED SCHEDULED DOSES FOR DEWORMING			
DEWORMING	**MINIMUM AGE 1ST DOSE**	**CHECK AGE AT PRESENTATION, GIVE THE MISSED DOSE AND FOLLOW ROUTINE SCHEDULE**	**MINIMUM INTERVAL BETWEEN DOSES**
Mebendazole 100mg bd for 3 days	12 Months	<24 Months	4 Weeks
Mebendazole 500mg stat	24 Months	<59 Months	4 Weeks
		59 to <60 Months	1 Dose
		≥60 Months	Do not give
OR			
Albendazole 200mg stat	12 months	<24 months	4 Weeks
Albendazole 400mg stat	24 months	<59 months	4 Weeks
		59 to <60 moths	1 Dose
		≥60 months	Do not give

***There is only mebendazole in the current RTHB, add Albendazole if it is being used in your facility**

8 DATA MANAGEMENT

There are six data collection tools: 3 for routine doses and 3 for catch-up doses

Routine doses:

Annexure 1: Daily Immunisation register that will be used by outreach teams if have Primary Health Care (PHC) registers is unavailable. The information will then be transferred into the facility PHC register when the team arrive in the fixed facility.

Annexure 2: Daily summary sheet for routine dose. Record daily totals for routine doses in Annexure 2.

Annexure 3: Weekly summary sheet for routine doses. Record the weekly totals for routine doses in Annexure 3.

Tally sheets will not be used for routine doses unless Primary Health Care (PHC) registers is not available

Catch up doses

Annexure 4: Daily tally sheet for catch-up doses. Tally catch-up doses only.

Annexure 5: Daily summary sheet for catch-up doses. Record daily totals for catch-up doses.

Annexure 6: Weekly summary sheet for catch-up doses. Record the weekly totals for catch-up doses.

1. Daily immunisation routine doses **Annexure 1** and Daily tally sheet catch-up doses **Annexure 4**:
    - **ALL** elements on top part of both tools must be fully completed
    - The "**Date**" must be the date of vaccination and must be printed clearly
    - Daily immunisation routine doses **Annexure1 must only be used** by crèches/day care centres or outreach services if they don't have PHC register. The information will then be transferred into the facility PHC register. Each child immunised must have their name and age recorded.
    - For catch up doses, to tally mark off circle in sequential order for each child vaccinated using the Daily tally sheet catch-up doses **Annexure 4**
    - Tallying should be done only after the child has been vaccinated
    - Use a **new** Sheet each day at **each** immunisation point.

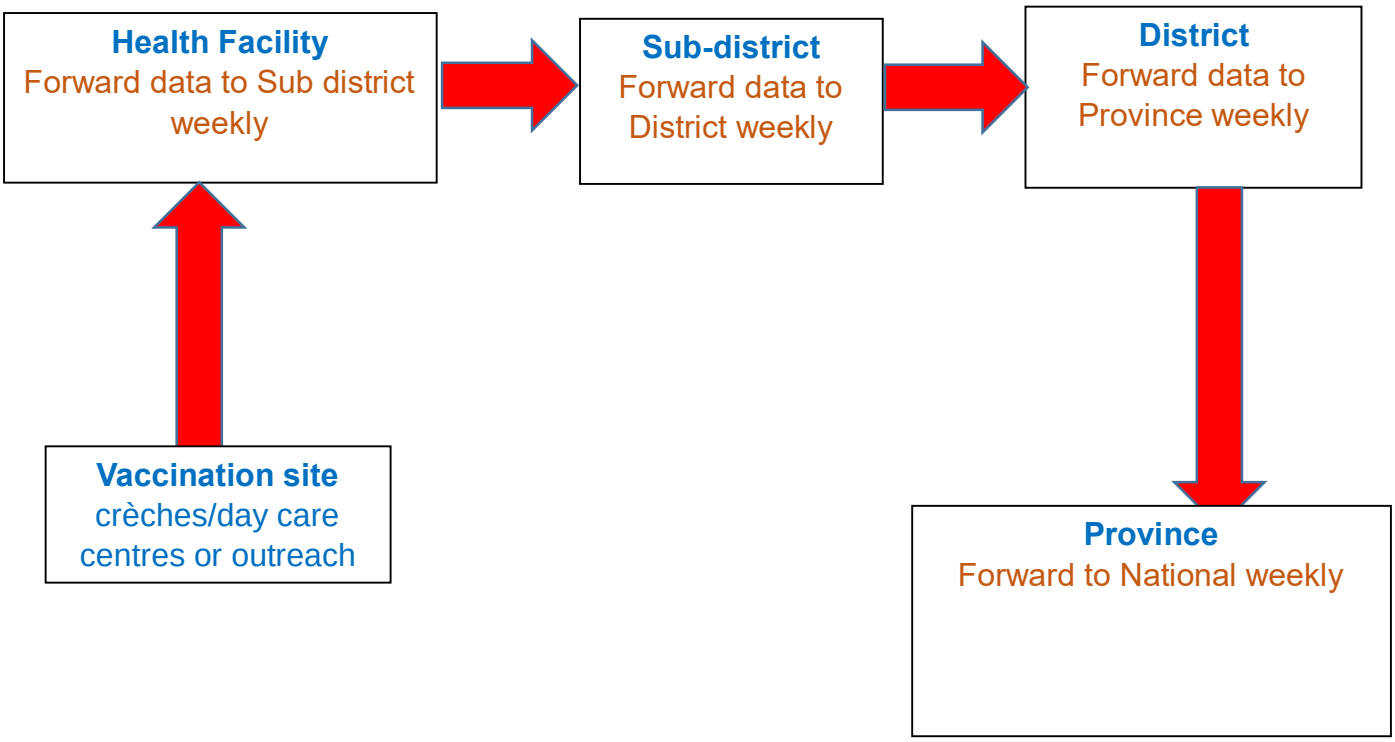
- Tally sheets **will not be used** for routine doses.

2. Daily summary sheet routine doses **Annexure 2** and Daily summary sheet catch – up doses **Annexure 5:**
   - **ALL** elements on top part of both tools must be fully completed
   - The "**Date**" must be the date of vaccination and must be printed clearly
   - All data from the Daily immunisation routine doses sheets, belonging to that facility **should be transferred** onto the Daily Summary Sheet routine doses **Annexure 2** and must be captured in to DHIS daily, from the lowest possible level (Facility / sub-district) **once they have been verified** and signed by the clinic supervisor
   - All data from the Daily tally sheet catch-up doses sheets belonging to that facility **should be transferred** onto the Daily Summary Sheet catch –up doses **Annexure 5** and must be captured in to DHIS daily, from the lowest possible level (Facility / sub-district) **once they have been verified** and signed by the clinic supervisor
   - The paper system and DHIS should compared and discrepancies must be clarified

3. Weekly summary sheet routine doses **Annexure 3** and weekly summary sheet catch-up doses **Annexure 6**
   - **ALL** elements on top part of both tools must be fully completed
   - **Information on** Daily Summary Sheet routine doses belonging to each facility as well as from any crèches/day care centres or other outreach visited by that facility or receiving stock from that facility **should be totaled and summarized** in to Weekly summary sheet routine doses **Annexure 3**
   - **Information on** Daily Summary Sheet catch –up doses belonging to each facility as well as from any crèches/day care centres or other outreach visited by that facility or receiving stock from that facility **should be totaled and summarized** in to Weekly summary sheet catch-up doses **Annexure 6**

- If no vaccine is administered during the week, a “zero” Weekly summary sheet should be submitted. This will ensure that no data is lost and each weekly report will then show the number of vaccine doses administered or a “0”
- **Weekly Summary Sheets** must be sent to the next level weekly, **every Monday morning**

Data Flow



Annexure 4:

DAILY IMMUNIZATION REGISTER: ROUTINE DOSES 2020-2021

DATE: (Compulsory) _____

District: _____Sub-District: _____ Facility: _____

Service Delivery Strategy: ☒ Temp Post / Mobile ☒ Crèche/ Pre-school Name: _____

Co-ordinators name_____ Cell number_____

ANTIGENS	Child's Name	Age
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
TOTAL		

Vaccine usage summary:

Antigen	Doses administered (No of children vaccinated)	Vials used
BCG		
OPV		
Rota		
PCV		
Hexa		
Measles		
Vit A		
Deworming		

Annexure 5:

DAILY TALLY SHEET CATCH- UP DOSES 2020-2021

DATE: (Compulsory) _____

District: _____Sub-District: _____ Facility: _____

Service Delivery Strategy: ☒fixed Post ☒ Temp Post / Mobile ☒ Crèche/ Pre-school name: _____

Co-ordinators name_____ Cell number_____

ANTIGEN/ ITEMS	12-59 MONTHS	TOTAL VACINATED
Hexa1	00000 00000	
Hexa2	00000 00000	
Hexa3	00000 00000	
MCV1	00000 00000	
OPV1	00000 00000	
PCV 1	00000 00000	
PCV 2	00000 00000	
PCV 3	00000 00000	
FIC	00000 00000	
	24-59 Months	
MCV 2	00000 00000	
Hexa4	00000 00000	

Vaccine usage summary:

Antigen	Doses administered (No of children vaccinated)	Vials used
Hexa		
OPV		
PCV		
Measles		

Annexure 6:

DAILY SUMMARY SHEET ROUTINE DOSES 2020-2021

CLINIC:			**DISTRICT:**			**SUB DISTRICT:**				**Sheet ...of...**					
CO-ORDINATOR NAME:				**CELL NUMBER:**						**DATE: _____ / _____ / 20____**					
Name (Facility, crèche, post, outreach)	BCG	OpvO	Opv1	Rota1	Pcv1	Hexa1	Hexa2	Rota2	Pcv2	Hexa3	Mcv1	Pcv3	Mcv2	Hexa4	VitA	Deworming
TOTALS																

Clinic Supervisor: (Print Name) ……..……... Signature: ……...

Contact number: ……..… Date verified: ……..……

Clinic Supervisor – Sends verified data to the Sub-District Coordinator

Annexure 7:

DAILY SUMMARY SHEET CATCH-UP DOSES 2020-2021

CLINIC:			**DISTRICT:**			**SUB DISTRICT:**					**Sheet ...of...**
CO-ORDINATOR NAME:				**CELL NUMBER:**		**DATE: _____ / _____ / 20_____**					
Name (Facility, crèche, post, outreach)	Hexa1 12-59	Hexa2 12-59	Hexa3 12-59	OPV1 12-59	PCV 1 12-59	PCV2 12-59	PCV3 12-59	MCV1 12-59	FIC 12-59	MCV2 24-59	Hexa4 24-59
TOTALS											

Clinic Supervisor: (Print Name) ……..…….. Signature: ……...

Contact number: ……..… Date verified: ……..……

Clinic Supervisor – Sends verified data to the Sub-District Coordinator. Copies of all the documents must be kept at the clinic

ANNEXURE 8: WEEKLY SUMMATY SHEET: ROUTINE DOSES

Annexure 8:

WEEKLY SUMMARY SHEET ROUTINE DOSES 2020-2021

Province:	**Facility :**
District :	**Facility Coordinator:**
Sub District :	**Telephone number:**

Week no	Dates of the week	Facility or Crèche/ day care centre name	BCG	OPV0	OPV1	ROTA1	PCV1	HEXA1	HEXA2	ROTA2	PCV2	HEXA3	MCV1	PCV3	MCV2	VitA	Deworming
Total																	

ANNEXURE 9: WEEKLY SUMMARY SHEET: CATCH-UP DOSE

Annexure 9:

WEEKLY SUMMARY SHEET CATCH –UP DOSES 2020-2021

Province :	**Facility :**
District :	**Facility Coordinator:**
Sub District :	**Telephone number:**

Week no:	Dates of the week	Facility or Crèche/ day care centre name	12-29 Month5									24-59 Months	
			Hexa1	Hexa2	Hexa3	OPV1	PCV1	PCV2	PCV3	MCV1	FIC	MCV2	Hexa 4
Total													